

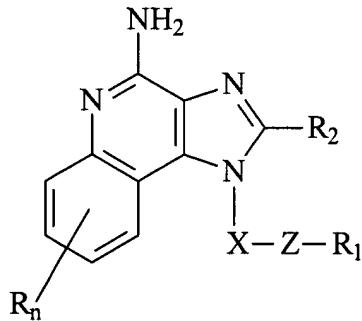
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-29 (canceled).

30 (currently amended) A method of treating a neoplastic disease in an animal in need thereof comprising administering to the animal a therapeutically effective amount of a compound of claim 1 to the animal the formula (I):



(I)

wherein: X is -CHR₃-, -CHR₃-alkyl-, or -CHR₃-alkenyl-;

Z is -S-, -SO-, or -SO₂-;

R₁ is selected from the group consisting of:

-alkyl;

-aryl;

-heteroaryl;

-heterocyclyl;

-alkenyl;

-R₄-aryl;

-R₄- heteroaryl;

-R₄-heterocyclyl;

R₂ is selected from the group consisting of:

-hydrogen;

-alkyl;

-alkenyl;

-aryl;

-heteroaryl;

-heterocyclyl;

-alkyl-Y-alkyl;

- alkyl-Y- alkenyl;

-alkyl-Y-aryl; and

- alkyl or alkenyl substituted by one or more substituents selected from the group consisting of:

-OH;

-halogen;

-N(R₃)₂;

-CO-N(R₃)₂;

-CO-C₁₋₁₀ alkyl;

-CO-O-C₁₋₁₀ alkyl;

-N₃;

-aryl;

-heteroaryl;

-heterocyclyl;

-CO-aryl; and

-CO-heteroaryl;

each R₃ is independently H or C₁₋₁₀ alkyl;

R₄ is alkyl or alkenyl;

Y is -O- or -S(O)₀₋₂₋;

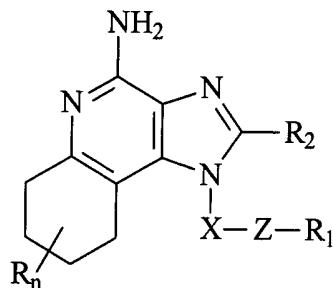
n is 0; and

each R present is independently selected from the group consisting of C₁₋₁₀ alkyl,

C₁₋₁₀ alkoxy, hydroxy, halogen and trifluoromethyl;

or a pharmaceutically acceptable salt thereof, that induces cytokine biosynthesis.

39 (currently amended) A method of treating a neoplastic disease in an animal in need thereof comprising administering to the animal a therapeutically effective amount of a compound of claim 13 to the animal the formula (II):



(II)

wherein: X is -CHR₃-, -CHR₃-alkyl-, or -CHR₃-alkenyl-;

Z is -S-, -SO-, or -SO₂-;

R₁ is selected from the group consisting of:

-alkyl;

-aryl;

-heteroaryl;

-heterocyclyl;

-alkenyl;

-R₄-aryl;

-R₄- heteroaryl; and

-R₄-heterocyclyl;

R₂ is selected from the group consisting of:

-hydrogen;

-alkyl;

-alkenyl;

-aryl;

-heteroaryl;

-heterocyclyl;

-alkyl-Y-alkyl;

- alkyl-Y- alkenyl;

-alkyl-Y-aryl; and

-alkyl or alkenyl substituted by one or more substituents selected from the group consisting of:

-OH;

-halogen;

-N(R₃)₂;

-CO-N(R₃)₂;

-CO-C₁₋₁₀ alkyl;

-CO-O-C₁₋₁₀ alkyl;

-N₃;

-aryl;

-heteroaryl;

-heterocyclyl;

-CO-aryl; and

-CO-heteroaryl;

each R₃ is independently H or C₁₋₁₀ alkyl;

R₄ is alkyl or alkenyl;

Y is -O- or -S(O)₀₋₂₋;

n is 0; and

each R present is independently selected from the group consisting of C₁₋₁₀ alkyl,

C₁₋₁₀ alkoxy, hydroxy, halogen and trifluoromethyl;

or a pharmaceutically acceptable salt thereof, that induces cytokine biosynthesis.

40-43 (canceled)

44 (currently amended) A method of treating a neoplastic disease in an animal in need thereof comprising administering to the animal a therapeutically effective amount of a compound ~~of claim 24 to the animal~~ selected from the group consisting of:

1-[5-(methylsulfonyl)pentyl]-2-propyl-1H-imidazo[4,5-c]quinolin-4-amine;

2-methyl-1-[3-(methylthio)propyl]-1H-imidazo[4,5-c]quinolin-4-amine;

2-methyl-1-[3-(methylsulfonyl)propyl]-1H-imidazo[4,5-c]quinolin-4-amine;

2-ethyl-1-[3-(methylthio)propyl]-1H-imidazo[4,5-c]quinolin-4-amine;

2-ethyl-1-[3-(methylsulfonyl)propyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[4-(methylthio)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[4-(methylsulfinyl)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-[4-(methylthio)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-[4-(methylsulfonyl)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[4-(methylsulfonyl)butyl]-2-propyl-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-[4-(methylsulfinyl)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[2-(methylthio)ethyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[2-(methylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[4-(methylsulfonyl)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-[2-(methylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[2-(methylsulfonyl)ethyl]-2-propyl-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{4-[(2,4-difluorophenyl)thio]butyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{4-[(2,4-difluorophenyl)sulfonyl]butyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-[4-(ethylsulfonyl)butyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-{4-[(1,1-dimethylethyl)thio]butyl}-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-{4-[(4-fluorophenyl)thio]butyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{4-[(4-fluorophenyl)sulfonyl]butyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-{4-[(1-methylethyl)thio]butyl}-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
1-{4-[(3,5-dichlorophenyl)thio]butyl}-2-ethyl-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[4-(cyclopentylsulfonyl)butyl]-2-ethyl-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
1-{4-[(3,5-dichlorophenyl)sulfonyl]butyl}-2-ethyl-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[4-(cyclohexylthio)butyl]-2-ethyl-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
1-[4-(butylthio)butyl]-2-ethyl-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
1-{4-[(4-chlorophenyl)thio]butyl}-2-ethyl-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[4-(butylsulfonyl)butyl]-2-ethyl-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-ethyl-1-{4-[(4-fluorophenyl)thio]butyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-{4-[(1-methylethyl)sulfonyl]butyl}-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-ethyl-1-[4-(ethylthio)butyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-ethyl-1-[4-(ethylsulfonyl)butyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
1-[4-(cyclohexylsulfonyl)butyl]-2-ethyl-1*H*-imidazo[4,5-*c*]quinoline-4-amine;

2-butyl-1-{2-[(1-methylethyl)sulfonyl]ethyl}-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-[2-(phenylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-{2-[(4-fluorophenyl)sulfonyl]ethyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{2-[(1,1-dimethylethyl)sulfonyl]ethyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{2-[(1,1-dimethylethyl)thio]ethyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-[2-(propylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-[2-(propylthio)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-{2-[(2-methylpropyl)sulfonyl]ethyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-{2-[(2-methylpropyl)thio]ethyl}-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-butyl-1-[2-(ethylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-[2-(ethylthio)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-[2-(methylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[6-(methylsulfonyl)hexyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[5-(phenylsulfonyl)pentyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
1-[5-(methylsulfonyl)pentyl]-2-(trifluoromethyl)-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-(2-methoxyethyl)-1-[5-(phenylsulfonyl)pentyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-[4-(pyrimidin-2-ylthio)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-ethyl-1-[4-(pyrimidin-2-ylsulfonyl)butyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[4-(methylsulfonyl)butyl]-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-[5-(methylsulfonyl)pentyl]-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-{4-[(1-methylethyl)sulfonyl]butyl}-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
2-methyl-1-{4-[(4-fluorophenyl)sulfonyl]butyl}-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine; and
2-methyl-1-{4-[(1,1-dimethylethyl)sulfonyl]butyl}-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
or a pharmaceutically acceptable salt thereof, that induces cytokine biosynthesis.

45-48 (canceled)

49 (new) A compound selected from the group consisting of

2-ethyl-1-[2-(methylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinolin-4-amine;

2-butyl-1-[2-(propylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-butyl-1-[2-(ethylsulfonyl)ethyl]-1*H*-imidazo[4,5-*c*]quinoline-4-amine;
2-methyl-1-[5-(methylsulfonyl)pentyl]-6,7,8,9-tetrahydro-1*H*-imidazo[4,5-*c*]quinolin-4-amine;
or a pharmaceutically acceptable salt thereof.

50 (new) A method of inducing cytokine biosynthesis in an animal comprising administering a compound of claim 49 to the animal in an amount effective for cytokine induction.

51 (new) A method of treating a viral disease in an animal in need thereof comprising administering to the animal a therapeutically effective amount of a compound of claim 49 that induces cytokine biosynthesis.

52 (new) A method of treating a neoplastic disease in an animal in need thereof comprising administering to the animal a therapeutically effective amount of a compound of claim 49 that induces cytokine biosynthesis.